Specification tracking all changes that the applicant is requesting. Applicant requests that the specification of this application be amended as follows. No new matter has been added.

Throughout the document, please change "meter newtons" to —newton meters—. This occurs on Page 20, lines 8, 23, 24, 25 and 36; Page 21, lines 1, 3, 5, 11, 13, and 17; Page 23, line 13; Page 29, line 9; and Page 32, line 23.

Page 9, line 27, change "Fig. 1 illustrates an embodiment of the present invention;" to —Figures 1a-1f illustrate various embodiments of the present invention;—.

Page 9, lines 28-31, change "Fig. 2A shows ... during power strokes;" to —Figures 2a-2d illustrate the direction of power flows during operation of one embodiment of the present invention;—.

Page 10, line 15, change "of the alternator in one embodiment of the method of the present invention; and" to —of an internal combustion engine and an alternator;—.

Page 10, line 18, change "battery." to —battery; and—.

Page 10, line 19, insert —Fig. 9C is an arrangement of an internal combustion engine and an alternator in one embodiment of the method of the present invention. —.

Page 10, line 24, change "Fig. 1" to —Fig. 1a— (twice).

Page 10, line 25, change "12" to —15—

Page 10, line 25, change "18" to —13—

Page 10, line 26, change "power electronic converter 13" to —control mechanism 19, which may take the form of a power electronic load, as described in Example 3, below,—.

Page 10, line 26, change "20" to —17—.

Page 10, line 26, change "13" to —19—.

Page 10, line 27, change "further connected to electrical load 14 and energy storage unit 16." to —further electrically connected to an electrical load 22. The control mechanism 19 has an input 65.

Fig. 1b shows another embodiment of the present invention, comprising a prime mover 11, connected by a shaft 13 to a generator 15. The generator is electrically connected to an energy storage unit 21, and to an electrical load 22. The electrical characteristics of the output of the generator 15 are controlled by control mechanism 19. The control mechanism includes an input 65, which may in some embodiments include

signals received from energy storage unit 21, to describe depth, or rate of discharge. Dotted lines18 represent these signals from said energy storage.

Control mechanism 19 in these figures may contain one or more of several different control features, as described below. It may include variable resistance, or pseudo-resistance, as in a power electronic load, described below. Input 65 in some embodiments may be incorporated into control mechanism 19. To determine the electrical characteristics of the generator 15, required to achieve a required power output, the control mechanism 19 may contain graphical or mathematical techniques. These latter components are well known in the art, and are not shown specifically on the Figure.

Fig. 1c shows a similar embodiment to Fig. 1b, with the addition of controller 29 electrically connected between the energy storage unit 21 and the electrical load 22. The controller 29 is for supplying power to the electrical load 22 at substantially the electrical requirements of said electrical load 22.

Fig. 1d shows a different embodiment of the present invention. A DC engine 11 is connected via a shaft to a generator 15. The excitation of the DC generator is controlled by generator excitation controller 39. The generator is connected with electrical connecting wiring 17 to an energy storage unit 21. The energy storage unit 21 is connected to an electrical load 22, with a controller 29 electrically connected between them load for supplying power to the electrical load 22 at substantially the electrical requirements of the electrical load 22. In related embodiments, the generator is an AC generator with adjustable excitation, in which case a rectifier 67 would need to be added electrically between the generator 15 and the energy storage unit 21.

Fig. 1e represents a simpler embodiment, similar to Fig. 1d, in which the energy storage unit 21 is omitted. An engine supplies mechanical power output to a generator, via a shaft 13. The excitation of the generator 15 is controlled by generator excitation controller 39, which adjusts the excitation of the generator 15 to control the torque load that the generator 15 applies to the shaft 13, and thereby control acceleration or deceleration of the engine. The electrical load 22, connected to the electrical output of the generator 15, receives electrical current from the generator 15, at basically required power outputs as determined by the generator excitation controller 39, but also including power fluctuations caused during changes in power output requirements.

Fig. 1f shows an embodiment of the present invention, in which the load is made of a set of resistive loads. The generator output circuit 26 includes a choice of a few resistive loads 77, connected by switches 79 into the generator output circuit 26. The switches 79 are operated by a control mechanism 19, as seen by the actuator 36.

Fig. 1g shows generator output circuit 26 across which a variable resistor 78 has been connected. It is operated by control mechanism 19, as seen by actuator 36. The control mechanism 19 includes an input 65. A further electrical load 22 may also connected to the generator output circuit 26.

Figs. 1f and 1g are described in detail in the section "Example 1 - Changing a Resistive Load on a Generator".—.

Page 12, line 23, after "Fig 9A" append —represents an alternator in its prior art usage. Fig 9C—.

Page 20, line 15, after "for each curve." append —A circuit diagram for connecting the output of the generator to these various resistive loads is depicted by Fig. 1f. Each of resistive loads 77 represents a different resistance. They may be connected individually or in combination. A circuit diagram for connecting the output of the generator to a variable resistor is depicted by Fig. 1g. The resistive loads 77 or the variable resistor 78 could take the form of resistance heaters.—.

Page 23, line 28, after "not operating." append —Figs. 2a-2d is referenced in this section. All of Figs. 2a-2d show an engine 11 joined by a crank shaft 13 to a generator 15. A control mechanism 19 - in this embodiment, taking the form of a power electronic load 19, and preferably an inverter, controls the electrical characteristics of the current between the generator 19 and an energy storage unit 21. The energy storage unit 21 would normally be connected to an end receiver of the generated electrical power; this end receiver is not shown. Power flows are shown by the bold arrows. The bold arrows 23, 25 and 27 point away from the source of current or torque, and towards the recipient. Fig. 2a shows the invention in starting mode.—.

Page 23, line 34, after "rotation." append —This may be seen in Fig. 2a. Bold arrows 23 show current being sourced from the energy storage unit 21 by the power electronic load 19, and transmitted to the generator 15, which applies a motoring torque to the crankshaft 13.—.

Page 23, line 34, after "producing power" append —This may be seen in Fig. 2b, which has the additional arrow 27, representing the torque output of the engine 11 also acting to accelerate the crankshaft 13.—.

Page 24, line 3, after "system." append —This may be seen in Fig 2c, in which bold arrows 25 replace bold arrows 23, showing that the torque of the crankshaft 13 is used by the generator 15, to provide a current to supply to the energy storage unit 21. However, bold arrow 27 remains, to show that the engine 11 is also still providing a torque to the crankshaft 13 to accelerate the crankshaft 13. —.

Page 24, line 5, after "accelerate." append — This is shown in Fig. 2d. Bold arrow 27 has disappeared, indicating that the engine is no longer providing an accelerating torque, and bold arrows 25 indicate that the engine 11 provides the torque to the crankshaft 13 which powers the generator 15 to generate electrical current for the energy storage unit 21.—.

Page 24, line 6, after "control" append —19—.

Page 24, line 7, after "generator" append —15—.

Page 24, line 9, after "motor." append the words —This is analogous to Fig. 2b.—

Page 24, line 9, after "engine" append —11—.

Page 24, line 10, after "generator" append —15—.

Page 24, line 13, after "absorbing power" append the words —as may be seen by the direction of bold arrows 23—.

Page 24, line 13, after "energy storage" append —21—.

Page 24, line 24, change "design;," to —design,—.

Page 26, line 28, after "with capacitor excitation." append —The embodiment may be understood with reference to Fig. 1b. Prime mover 11, which may be a heat engine, is connected via a shaft 13 to generator 15. Control mechanism 19 is connected to the output of generator 15. The control mechanism 19 in the present embodiment takes the form of a power electronic load, also referred to as a power electronic converter.—.

Page 27 line 9, after "source" append —(DC generator 15)—.

Page 27, line 9, after "inductor," append —47—.

Page 27, line 10, after "switching control element" append —(transistor) 43—.

Page 27, line 10, after "source" append —(DC generator) 15—.

Page 27, line 10, after "a high voltage load" append —in the figure shown as battery 21,—.

Page 27, line 11, change "switching element" to —switching control element 43—.

Page 27, line 11, after "diode" append —49—.

Page 27, line 12, change "switching element" to —switching control element 43—.

Page 27, line 13, change "control element" to —switching control element 43—.

Page 27, line 13, after "source" append —(DC generator 15)—.

Page 27, line 14, after "inductor" append —47— (twice).

Page 27, line 14, change "control element" to —switching control element 43—.

Page 27, line 16, after "voltage load" append —21—.

Page 27, line 16, after "inductor," append —47—.

Page 27, line 18, change "control element" to —switching control element 43—.

Page 27, line 20, change "the input voltage and current are sampled" to —the input voltage is sampled by voltage sensor 35, and current is sampled by current sense 33—.

Page 27, line 21, change "control element" to —switching control element 43—.

Page 27, line 21, after "threshold voltage" append —37—.

Page 27, line 22, after "rectifier" append —59—.

Page 27, line 24, after "current." append "This is done by comparator 39.—.

Page 27, line 25, after "integrator" append —PWM unit 41—.

Page 27, line 25, change "control element" to —switching control element 43—.

Page 27, line 26, after "integrator" append —41—.

Page 27, line 27, change "control element" to —switching control element 43—.

Page 28, line 8, after "power sourcing applications." append —The embodiment may be understood with reference to Fig. 1a. Prime mover 11, which may be a heat engine, is connected via a shaft 13 to generator 15. Control mechanism 19 is connected to the output of generator 15, and is connected to an energy storage unit 21 and to an eventual load 22. The control mechanism 19 in the present embodiment takes the form of a power electronic load, also referred to as a power electronic converter. The power electronic load is capable of controlling

the generator power output and also of sourcing power for the generator from the energy storage unit 21.—.

Page 29, line 26, after "generator" append —15—.

Page 29, line 27, after "inductor" append —47—.

Page 29, line 27, after "transistor" append —(switching control element) 43—.

Page 29, line 27, after "diode" append —49—.

Page 29, line 27, after "battery" append —21—.

Page 29, line 31, after "inductor" append —47—.

Page 29, line 31, after "transistor" append —43—.

Page 29, line 31, after "diode" append —49—.

Page 29, line 32, after "transistor" append —43—.

Page 29, line 33, after "transistor" append —43—.

Page 29, line 33, after "generator" append —15—.

Page 29, line 33, after "inductor" append —47—.

Page 29, line 34, after "inductor" append —47—.

Page 29, line 35, after "transistor" append —43—.

Page 29, line 35, after "inductor" append —47—.

Page 29, line 36 after "inductor" append —47—.

Page 30, line 1, after "diode" append —49—.

Page 30, line 1, after "inductor" append —47—

Page 30, line 2, after "battery" append —21—.

Page 30, line 3, after "additional transistor" append —55—.

Page 30, line 4, after "diode" append —51—.

Page 30, line 5, after "battery" append —21—.

Page 30, line 5, after "generator" append —15—.

Page 30, line 6, change "A" to —43— (twice).

Page 30, line 7, change "B" to —55—.

Page 30, line 7, after "battery" append —21—.

Page 30, line 8, after "generator" append —15—.

Page 30, line 9, change "B" to —55—.

Page 30, line 9, after "inductor" append —47—.

Page 30, line 9, after "generator", append —15—.

Page 30, line 10, after "generator" append —15— (twice).

Page 30, line 11, change "B" to —55— (twice).

Page 30, line 12, after "generator" append —15—.

Page 30, line 12, after "catch diode" append —51—.

Page 30, line 13, after "inductor", append —47—.

Page 30, line 13, change "B" to —55—.

Page 30, line 14, change "B" to —55—.

Page 30, line 14, and after "inductor" append —47—.

Page 30, line 15, after "diode" append —49—.

Page 30, line 15, change "A" to —43—.

Page 30, line 16, replace "B" with —55— (twice)

Page 30, line 17, after "catch diode" append —51—.

Page 30, line 17, after "inductor" append —47—.

Page 30, line 18, after "battery" append —21—.

Page 30, line 18, after "generator" append —15—

Page 30, line 19, after "inductor" append —47—.

Page 30, line 22, after "easy" append —This may be seen on Fig. 1b.—

Page 30, line 22, after "load" append —22—.

Page 30, line 23, after "battery" append —21—.

Page 30, line 24, after "generator controller" appen —, shown as input 65,—.

Page 30, line 25, after "battery" append —21—.

Page 30, line 26, after "measuring actual battery voltage." append —The dotted lines electrical connectors 17 show this embodiment in which the input 65 (also referred to as the generator controller) takes a measurement from the voltage of the battery 21.—.

Page 30, line 27, after "generator controller", add —shown as input 65—.

Page 30, line 28, after "power electronic load" append —19—.

Page 30, line 28, after "threshold voltage" append—(37, in Fig. 8b)—.

Page 30, line 29, change "engine/generator" to —engine 11/generator 15—.

Page 30, line 31, after "battery" append —21— (three times).

Page 30, lines 32-33 change "generator controller" to —input 65—.

Page 30, line 33, after "power electronic load" append —19—.

Page 30, lines 33-34 after "threshold voltage" append —(37 in Fig. 8b)—.

Page 30, line 34, change "engine/generator" to —engine 11/generator 15—.

Page 30, line 35 after "battery" append —21—.

Page 32, line 7, change "Fig. 9A" to —Fig. 9C—.

Page 32, line 7, after "engine" append —11—.

Page 32, line 7, and after "alternator" append —63—.

Page 32, line 9, after "alternator" append —63—.

Page 32, line 9, after "engine" append —11—.

Page 32, line 10-11, after "full wave rectifier", append —67—.

Page 32, line 11, and after "battery" append —21—.

Page 32, line 12, after "described above." append —Excitation control is not shown, but is included in alternator 63.—.

Page 32, line 12, after "battery" append —21—.

Page 32, line 14, after "alternator" append —63—.

Page 32, line 14, after "battery" append —21—.

Page 32, line 14, change "rectifier is" to —diodes 91 are—.

Page 32, line 15, after "alternator", append —63—.

Page 32, line 16 after "alternator", append —63—.

Page 32, line 17 after "battery", append —21—.

Page 32, line 18 after "battery", append —21—.

Page 32, line 18, after "armature reaction." append —Input 65 represents an adjustable power setting. Inlet 61 represents the fuel and the air inlet to the engine. Shaft 13 connects between the engine and the alternator.—

Page 33, line 10, after " switching elements" append —93—.

Page 33, line 10, after "rotor position sensor" append —69—.

Page 33, line 11, change "DC motor. a modification allows" to —DC motor, a modification that allows—.

No new matter has been added with the above amendments to the Specification.